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5.0 EVALUATION OF ALTERNATIVES

5.1 NEPA AND CEQA REQUIREMENTS

The alternatives to the proposed SAMP/WSAA Process were developed in accordance with both NEPA and CEQA requirements for analysis of a reasonable range of project alternatives.

NEPA requirements for alternatives analysis (40 CFR 1502.14) direct federal agencies to:

- Consider a range of alternatives that could accomplish the project purpose and need and present the alternatives in comparative form to define the issues and provide a clear basis for decision makers and the public to choose among options.
- Explore rigorously and evaluate objectively a reasonable range of alternatives. If alternatives have been eliminated from detailed study, the EIS must briefly discuss the reasons they were eliminated. The range of alternatives is project specific, depending on the nature of the proposal and the facts and circumstances of the project.
- Analyze each alternative to a degree that is substantially similar to the analysis afforded the Proposed Action.
- Identify the “Environmentally Preferable” alternative from the range of alternatives considered. This alternative is considered to be the one that best promotes the environmental policy expressed in NEPA.
- Include a “no action” alternative.

The CEQA Guidelines [Article 9, Section 15126(d)] require an evaluation describing a range of reasonable alternatives “which would reasonably attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” Specific elements to consider are:

- **Purpose.** “The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects on the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.” [Section 15126 (d)(1)]
- **Reasonable Range of Alternatives.** The EIR is required to include alternatives that “could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects.” [Section 15126(d)(2)]
- **Evaluation.** The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison of the proposed project. If an alternative to the proposed project results in significant effects (in addition to those caused by the proposed project), the significant effects of the alternatives shall be discussed but in less detail than the significant effects on the project as proposed. [Section 15126(d)(3)]
- **No Project.** A “no project” alternative must be evaluated with the impact. If the “no project” alternative is not the environmentally superior alternative, the EIR is required to identify an environmentally superior alternative among the other alternatives. [Section 15126(d)(4)]

- **Rules of Reason.** The “rule of reason”, which required that the EIR sets forth only those alternatives that are necessary to permit a reasoned choice, governs the required range of alternatives to be included in an EIR. An EIR must examine in detail only the alternatives “that the lead agency determines could feasibly attain most of the basic objectives of the project.” In addition, “the range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.” [Section 15126(d)(5)]

The range of alternatives addressed in this Program EIS/EIR includes alternatives that are specifically required under state and federal law. The alternatives may or may not contribute to achieving the goals and objectives of the proposed SAMP/WSAA Process project as discussed in Section 5.4. The four selected alternatives to the proposed SAMP/WSAA Process are: 1) No Project/No Federal Action (Existing Case-by-Case Permitting); 2) Complete Avoidance (No Permits Issued); 3) Avoidance Except for Bridges and Utilities (Limited Permitting); and 4) General Plan Build-out (Permitting Under the Existing Regulatory Process). Descriptions of the scope and conceptual basis of these alternatives are provided in Sections 2.2. Section 5.2 below identifies environmental impacts of each alternative. Section 5.3 provides a comparison of the alternatives.

5.2 PROGRAMMATIC ASSESSMENT OF ALTERNATIVES

This section presents a programmatic impact assessment of each alternative organized by environmental topic area. The description of each alternative is presented in Section 2.2 and not repeated herein. The CEQA significance thresholds used for the proposed SAMP/WSAA Process impact analysis in Section 4 are applicable for the alternatives impact analysis presented herein, and referenced accordingly to avoid repetition. Future individual projects that would be permitted under the SAMP/WSAA Process would be subject to local environmental review and approval requirements. Project specific impacts would be evaluated at that time.

5.2.1 Aquatic, Riparian and Wetland Habitats

Significance thresholds under CEQA are provided in Section 4.2.1.

5.2.1.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The type of temporary and permanent impacts (including both direct and indirect impacts) for the seven categories of regulated activities described for the proposed SAMP/WSAA Process in Section 4.2.2 would be similar under Alternative 1. In general, most remaining land development and other activities in the Watershed would consist of residential and commercial projects with some industrial, institutional, and recreational uses (local and regional parks including open space areas, trails, playing fields, golf courses, administrative buildings). Attendant features to most of these uses would include local roads, parking lots, driveways, utilities, and storm water management systems. Land development would typically require vegetation clearing, grading and excavation for construction access, building pads, roads, and culverts; boring and trenching for utility, sewer and storm drain installation; and paving operations. These activities may result in discharge of fill or encroachment into stream channels, wetlands or unlined agricultural drainages, redirecting of surface runoff into underground storm drains,

temporary stream diversion, and dewatering operations. Impacts from land development activities have the greatest potential for permanent impacts at the riparian reach and watershed scales.

Edge effects from adjacent activities during and after construction may indirectly impact the integrity of wetland and riparian areas. Other indirect impacts may be the introduction of invasive, non-native plants; domesticated animals; increased storm water runoff downstream; hydromodification; and wetland type change (i.e., one habitat type to another, such as willow riparian to cattail marsh). Modifying within channel and/or downstream hydrology may result in channel incision, which in turn may isolate floodplains by reducing the ability of flood flows to reach floodplain areas. Floodplain isolation has many ecological impacts such as recruitment limitation, establishment of upland vegetation, and reduced functional integrity. Such indirect impacts may be addressed through conditions required by the current regulatory programs in place in the Watershed, yet taken together these impacts may result in increased cumulative impacts as compared to the proposed SAMP/WSAA Process.

No Implementation of SAMP/WSAA Process

In the long-term, this alternative scenario would result in adverse impacts on riparian habitat and federally protected wetlands in the Watershed overall, because of the following: (a) impacts would not be focused in areas containing low quality aquatic resources (at the Watershed scale); (b) impacts would not be avoided in high quality habitat (aquatic resource integrity areas); and (c) a Strategic Mitigation Plan and Mitigation Coordination Program would not be established to allow for holistic (at the Watershed scale) planning of restoration areas to restore and enhance ecosystem function. In addition, the overall, incremental impacts may not be fully mitigated via traditional mitigation approaches. Mitigation under this alternative would not be designated in a comprehensive, ecosystem-based manner. As such, the mitigation (while offsetting the acreage) would be less effective for addressing Watershed functional losses. Although impacts would likely be reduced to less than significant for single projects through the existing permitting requirements, significant cumulative impacts to wetlands and riparian areas may occur without any Watershed-level planning. Further details regarding the relative merits of the SAMP/WSAA Process in comparison to the current regulatory program (i.e., Alternative 1) is discussed in Section 2.1.6 (Beneficial Effects of the Proposed SAMP Permitting/WSAA Process in Comparison to the Current Permitting/Agreement Process) and summarized in Tables 2-15 and 2-16 of Section 2.1.6.

Applicable Federal and State Regulations that Minimize Impacts

Regulated activities under this alternative would be required to comply with the state and federal policies and regulations, as applicable, to address potential impacts to sensitive species and their habitats located within aquatic and upland areas of the Watershed. General conditions associated with Section 404 permits, Section 401 water quality certifications, and streambed alteration agreements would require mitigation and applicable BMPs to minimize downstream hydrologic and water quality impacts. Considering cumulative impacts at a Watershed scale, mitigation under this scenario may be insufficient to compensate for impacts, given the high failure rate of mitigation projects in Orange County (e.g., Sudol and Ambrose 2002) that may be attributed to a lack of strategic placement and implementation of mitigation projects. Also, as future projects are implemented, the quantity and quality of mitigation sites would decrease the options for applicants looking to compensate for impacts.

Mitigation Measures

No mitigation measures are needed for project level impacts since potential significant impacts to aquatic, wetland and riparian habitats would be expected to be reduced to less than significant with requirements of state and local wetland permitting programs.

To mitigate for significant cumulative impacts, the Corps and the Department would need to adopt a comprehensive watershed-wide avoidance and mitigation program, with permitting based on aquatic resource integrity, such as proposed by the SAMP/WSAA Process.

Level of Significance After Mitigation

With the adoption of a comprehensive avoidance and mitigation program, like the SAMP/WSAA Process, potentially significant cumulative impacts would be reduced to less than significant.

5.2.1.2 Alternative 2: Complete Avoidance (No Permits Issued)

This alternative is described in detail in Section 2.2.2

This alternative scenario would not result in direct significant impacts on riparian habitat and federally protected wetlands because jurisdictional areas would be avoided. The result is expected to include a continuation of existing acreage of riparian habitat and riparian ecosystem functions over the entire Watershed. Although direct impacts are avoided, runoff from development in adjacent upland areas may result in indirect downstream impacts such as hydro-modification (relates to hydrologic integrity), water quality degradation (relates to water quality integrity), and sedimentation (relates to water quality and habitat integrity). These impacts may change the ability of downstream aquatic resources to serve various functions which maintain riparian ecosystem integrity (Smith 2000, 2003). These potential impacts would be minimized by the implementation of BMPs, and would ensure that indirect impacts to aquatic resources would be mitigated to a level considered less than significant. Under this alternative, no mitigation would be required for direct impacts because no direct impacts are anticipated to occur with respect to the placement of fill material (Corps and Department issue), above-ground modification of habitat (Department issue), or shading impacts (i.e., blocking sunlight for plants; Department issue).

No Implementation of SAMP/WSAA Process

As there would be no SAMP/WSAA Process in place, future mitigation/restoration projects would not be strategically targeted to accomplish elements of the proposed restoration plan. In fact, restoration projects would not be allowed to occur as these would require authorization from the Corps and Department. With no priority to restore riparian areas that may support sensitive species and provide connectivity between upland conservation areas, the long-term sustainability of riparian-dependent species may slowly degrade over time.

Mitigation Measures

No mitigation measures are needed since no significant impacts to aquatic, wetland, and riparian habitats are anticipated. However, a long-term restoration program would be needed to ensure the sustainability of riparian-dependent species in the Watershed over time.

Level of Significance After Mitigation

Less than significant.

5.2.1.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

The type of temporary and permanent impacts (including both direct and indirect impacts) for the roads and utility line categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.3) would be similar under Alternative 3. However, the extent of impacts would be greater under this alternative than the proposed project because this alternative does not include Watershed-specific avoidance and minimization measures.

Construction of road crossings, bridges, and culverts across or within jurisdictional waters and streambeds would be necessary to meet local and regional circulation needs associated with continual development of the Watershed, as specified in the County Master Plan of Arterials and Highways (MPAH). Bridges may span the watercourse, be constructed with one or more piers depending on bridge length, or be constructed over culverts. As under existing Corps/Department permitting programs, construction and routine maintenance activities of at-grade crossings, box culverts, pipe culverts, and bridges may include grading, excavation, compacting and/or filling, vegetation clearing and management, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, channel desilting, and road paving operations.

Temporary impacts on aquatic, wetland, and riparian habitat functions may occur from direct habitat disturbance and/or removal, or indirect impacts from erosion, sedimentation, and hydrologic changes. The necessity for channel and/or bank stabilization may result in temporary impacts, assuming the design includes buried, un-grouted rip-rap, buried structures, or bioengineering elements. Streams may be diverted during work within these areas, preventing natural flooding or saturation of soils. Construction activities may increase the potential for invasive, exotic plant species to colonize the sites. The removal of vegetation may temporarily reduce the ability of these areas to assimilate nutrients from upstream and adjacent activities, as well as provide channel/bank stability against erosion. Shading of available sunlight may impact areas located directly under bridges because shading limits the amount and quality of riparian habitat and wetlands that would normally be present in the absence of bridges. Plant species adapted to low-light conditions, such as those adapted to living under a closed riparian forest canopy, would be expected to persist.

Long-term, indirect impacts may include subtle changes in downstream hydrology, which may in turn impact riparian areas from channel incision and/or unnatural scouring. Changes in flooding extent and timing may affect the persistence of riparian plants by reducing the frequency of recruitment events (i.e., new plants colonizing areas from seed or vegetation fragments). Remaining future bridge and culvert projects in the Watershed may serve to reduce the hydrologic and habitat connectivity of riparian reaches. Fragmentation impacts could be addressed through proper design elements (e.g., large culverts to allow wildlife passage, or bioengineering solutions such as un-grouted rip-rap).

Bridge construction activities would typically be associated with future land development activities; and the Watershed is almost fully built-out. It is anticipated that recovery from temporary impacts at one

particular site would be completed before impacts would occur in another location. Thus, multiple temporary impacts occurring at the same time are unlikely. These activities are usually completed in a relatively small area within a single riparian reach. Thus, no further degradation of the hydrologic, water quality, or habitat functions of affected riparian areas would be expected overall in the Watershed. The temporary nature of these impacts would not reduce the acreage of aquatic, wetland, and riparian resources in the Watershed.

No Implementation of SAMP/WSAA Process

Under Alternative 3, individual projects would not be evaluated and permitted based on ecosystem integrity, so no increased avoidance or minimization of impacts in areas of high habitat integrity would occur. As a result, this alternative would be less protective of the Watershed's habitat function than the proposed SAMP/WSAA Process. Compensatory mitigation would not be accomplished strategically under a Strategic Mitigation Plan and Mitigation Coordination Program as proposed under the SAMP/WSAA Process. Accordingly, future mitigation/restoration projects would not be strategically targeted to accomplish elements of the proposed restoration plan relating to habitat that supports sensitive species. With no priority to restore riparian areas that may support sensitive species and provide connectivity between upland conservation areas, the long-term sustainability of riparian-dependent species could slowly degrade over time.

Applicable Federal and State Regulations that Minimize Impacts

Regulated activities under this alternative would be required to comply with the state and federal policies and regulations, as applicable, to address potential impacts to sensitive species and their habitats located within aquatic and upland areas of the Watershed. General conditions associated with Section 404 permits, Section 401 water quality certifications, and streambed alteration agreements would require mitigation and applicable BMPs to minimize downstream hydrologic and water quality impacts. Therefore, no significant adverse impacts are expected to occur.

Mitigation Measures

No mitigation measures are needed since no significant impacts have been identified. However, a long-term restoration program would be needed to ensure the sustainability of riparian-dependent species in the Watershed over time.

Level of Significance After Mitigation

Less than significant.

5.2.1.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore land development could occur in accordance with the existing city and County General Plans, zoning codes and with full development of the MPAH. The type of temporary and permanent impacts (including both direct and indirect impacts) for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.3) as well as Alternative 1 would be similar under Alternative 4. However, the extent of impacts would be greater under this alternative than the proposed project as more land acreage in jurisdictional and upland areas would likely be developed.

Permanent impacts could include conversion of all or part of a natural, riparian drainage course into a concrete flood control channel, culvert, or permanent fill for land development which could adversely affect the habitat functions of downstream riparian areas, if proper compensatory mitigation is not required and implemented (direct effects). Under Alternative 4, construction activities could require removal of entire drainages from the Watershed, or placement of drainages in underground storm drains. Such activities would effectively remove all functions from these habitats. Other effects on aquatic resources could occur from vegetation removal affecting stream shading, bank stability and pollutant removal capacity. Land development would result in an increase in impervious surfaces draining new sources and types of polluted runoff in the Watershed during wet and dry weather, if not properly controlled by BMPs (indirect effect).

Some projects may include features that could help reduce impacts below significance through compensatory mitigation, although projects that require removal or relocation of large portions of riparian reaches would result in a significant impact. On the Watershed scale, the magnitude of impacts that are possible under this alternative could lead to significant cumulative impacts to aquatic, wetland, and riparian resources. The discussion in Section 2.1.6 (beneficial effects of the proposed SAMP Permitting Program/WSAA Process in comparison to the current permitting program) would also be applicable for comparison of the proposed project to Alternative 4.

No Implementation of SAMP/WSAA Process

Under Alternative 4, individual projects would not be evaluated and permitted based on ecosystem integrity. Thus, no increased avoidance or minimization of impacts in areas of high habitat integrity would occur. As a result, this alternative would be less protective of the Watershed's habitat function than the proposed SAMP/WSAA Process. Compensatory mitigation would not be accomplished strategically under a Strategic Mitigation Plan and Mitigation Coordination Program as proposed under the SAMP/WSAA Process. Accordingly, future mitigation/restoration projects would not be strategically targeted to accomplish elements of the proposed restoration plan, such as habitat restoration to support sensitive species.

Applicable Federal and State Regulations that Minimize Impacts

Regulated activities under this alternative would be required to comply with applicable state and federal policies and regulations to address potential impacts to sensitive species and their habitats located within aquatic and upland areas of the Watershed. General conditions associated with Section 404 permits, Section 401 water quality certifications, and streambed alteration agreements would require mitigation

and applicable BMPs to minimize downstream hydrologic, water quality and habitat impacts. Under this alternative, areas protected under the NCCP program would remain in conservation. Other existing local and state regulations to control water quality, such as compliance with NPDES requirements (e.g. construction and municipal storm water permits) would help minimize potentially significant water quality impacts.

Mitigation Measures

For significant cumulative impacts, the Corps and the Department would need to adopt a comprehensive watershed-wide avoidance and mitigation program, with permitting based on aquatic resource integrity, such as proposed by the SAMP/WSAA Process.

Level of Significance After Mitigation

With the adoption of a comprehensive avoidance and mitigation program, like the SAMP/WSAA Process, potentially significant cumulative impacts would be reduced to less than significant.

5.2.2 Biological Resources Including Threatened and Endangered Species

Significance thresholds under CEQA are provided in Section 4.3.1.

5.2.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The type of temporary and permanent impacts to federally- and state-listed species and their habitat for the seven categories of regulated activities discussed in Section 4.3.2 would be similar under Alternative 1. Land development, utility line construction and maintenance, and other activities would be permitted under the current regulatory program and would include residential, commercial, industrial, institutional and recreational uses. Activities would typically require vegetation clearing, grading and excavation for construction access, building pads, roads and culverts; boring and trenching for utility, sewer and storm drain installation; and paving operations. These activities may result in discharge of fill or encroachment into stream channels, wetlands or unlined agricultural drainages, redirecting of surface runoff into underground storm drains, temporary stream diversion and dewatering operations.

Temporary impacts could result from the construction activities including temporary construction access roads and construction staging areas. Such impacts would include temporary disturbance to native upland and riparian habitats and the federally and state-listed species that occupy them. Temporary impacts can also affect species and their upland and riparian habitats resulting from required grading, stockpiling, trenching, temporary stream diversion, dewatering operations, temporary construction access roads, and work areas. Construction activities can have indirect impacts on listed species such as from construction noise. In addition, downstream effects on aquatic habitat may result from the following factors: potential discharge of construction-related pollutants (e.g., concrete, waste oil solvents, debris, etc spilled, leaked or transported via storm runoff into downstream areas); or temporary change in hydrologic or geomorphic characteristics of the water body during certain flow conditions affecting the rate of downstream erosion and sedimentation. Construction of residential, commercial, industrial, institutional, and recreational features or over a drainage course may require the permanent removal of upland and riparian habitat that would permanently affect sensitive species. In addition, large land development activities may

permanently disrupt migration corridors and make it difficult or impossible for wildlife to pass through or around a large development.

Several indirect impacts to sensitive species can occur following completion of land development projects. For example domestic pets (in particular cats) from a new residential neighborhood can be predators that kill wildlife once they gain access to native habitats. The federally-listed coastal California gnatcatcher may be particularly vulnerable to such threats. Additionally, increased human activity from new residential neighborhoods can disturb sensitive species in their habitat and discourage species re-occupation. Post-construction noise, such as from traffic serving new development may affect sensitive wildlife located nearby. Increased night lighting has also been known to adversely impact sensitive wildlife species. In addition, downstream water quality impacts and hydrologic impacts on sensitive aquatic habitat may continue post-construction resulting from increases in urban and storm water runoff. For individual projects, many such impacts would be discussed in detail in separate CEQA documents required by local agencies.

No Implementation of SAMP/WSAA Process

Under the No Project alternative, individual projects would not be evaluated and permitted based on ecosystem integrity, so no increased avoidance or minimization of impacts in areas of high habitat integrity would occur. As a result, this alternative would be less protective of the Watershed's habitat function than the proposed SAMP/WSAA Process. Compensatory mitigation would not be accomplished strategically under a Strategic Mitigation Plan and Mitigation Coordination Program as proposed under the SAMP/WSAA Process. Accordingly, future mitigation/restoration projects would not be strategically targeted to accomplish elements of the proposed restoration plan relating to habitat that supports sensitive species.

Many of the strategies would serve to complement the existing NCCP Reserve System; thus, without the SAMP/WSAA Process the existing NCCP would remain the key habitat protection mechanism in place. The NCCP covers upland species, but does not include riparian species such as the least Bell's vireo. With no priority to restore riparian areas that may support sensitive species and provide connectivity between upland conservation areas, the long-term sustainability of riparian-dependent species may degrade over time.

Applicable Federal and State Regulations that Minimize Impacts

Regulated activities under this alternative would be required to comply with the following state and federal policies and regulations, as applicable, to address potential impacts to sensitive species and their habitats located within aquatic and upland areas of the Watershed. These are reviewed in more detail in Section 4.3.2.

Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP): As described previously in this document, the Central and Coastal Orange County NCCP/HCP provides for the regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development growth. The NCCP/HCP was developed to provide adequate mitigation for impacts to the California gnatcatcher and other Identified Species' habitat. The Department and USFWS

developed the NCCP/HCP that provides coverage under Section 10 of FESA and CESA to those who are signatory to the NCCP/HCP. The NCCP Central and Coastal sub-region extends within the Watershed. Qualifying applicants within the Watershed seeking coverage under the SAMP/WSAA Process can continue to utilize the NCCP/HCP process for authorizing the take of a listed species, including the federally listed coastal California gnatcatcher.

Sections 7 and 10 of the FESA: As described previously in this document, the FESA prohibits activities that adversely affect any federally threatened or endangered species or species proposed for such listing or their designated critical habitats. The FESA also establishes a process for consultation and evaluation by the USFWS of proposed federal projects. Through the consultation process and specific provisions for habitat preservation, the FESA provides federal protection for species and habitat diversity, especially in cases where habitat loss has caused species endangerment. Sections 7 and 10 of the FESA would continue to be utilized as needed for the purpose of authorizing take of a listed species. The Corps may undergo a Section 7 or 10 consultation with the USFWS as part of the permitting process should they choose to do so. Four federally listed species are found or are potentially present in the Watershed: the coastal California gnatcatcher, the least Bell's vireo, southwestern willow flycatcher, and the Riverside fairy shrimp. Of the four species, only the California gnatcatcher has critical habitat designations that are in effect over portions of the Watershed.

California Endangered Species Act (CESA): As described previously in this document, the CESA establishes a state policy to conserve, protect, restore, and enhance threatened and endangered species and their habitats designated by the State of California. If the Department determines that a project would jeopardize a designated species or adversely modify its essential habitat, the Lead Agency must implement Department's alternatives to avoid jeopardy. CESA includes exceptions to the alternatives requirement and applies only to state-approved projects. Private projects do not require consultation under the Act. However, taking is still prohibited without a permit pursuant to Section 2081 of the FGC. Given the general conditions, as well as the requirements of the NCCP, FESA and CESA, activities within the Watershed would not be expected to create a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Department or USFWS. Also, activities would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

In this Watershed sensitive upland species include the coastal California gnatcatcher and sensitive riparian species include the least Bell's vireo and southwestern willow flycatcher. Any future activities in the Watershed affecting the gnatcatcher or other upland species would likely be covered under the NCCP. Impacts to riparian species would be addressed and mitigated through the Section 7 consultation process between the Corps and USFWS.

Given the applicable regulatory requirements, potential impacts to biological resources would be avoided or reduced to a less than significant level.

Mitigation Measures

None needed since no significant impacts are identified. However, a long-term restoration program would be needed to ensure the sustainability of riparian-dependent species in the Watershed over time.

Level of Significance After Mitigation

Less than significant.

5.2.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under this alternative, no permitting of impacts in jurisdictional areas would occur. Build-out of the full MPAH would not occur and remaining acreage available for development would be reduced. No bridges, culverts, flood control facilities or other in-channel structures could be built, thereby reducing the potential for impacts to riparian-dependent species. Under this alternative, land development and other activities would not encroach into existing drainage courses thereby maintaining the existing habitat function of the Watershed. However, no Strategic Mitigation Plan or Mitigation Coordination Program would be implemented, and thus no targeted restoration would occur in the Watershed to increase habitat function of reaches that support, or have the potential to support, sensitive species.

No significant direct impacts to riparian-dependent species would be expected since no permits would be issued for activities in jurisdictional areas. Indirect impacts to these species may occur through hydrologic and water quality changes due to increased urban runoff. Potential impacts to upland species may occur as development would be restricted to upland areas. Future applicants would be required to comply with the NCCP, and potentially the FESA and CESA if a given project would affect a species not directly covered by the NCCP.

No Implementation of SAMP/WSAA Process

The discussion under Alternative 1 is applicable for this alternative.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Alternative 1 is applicable for this alternative. The NCCP and Section 10 process would require applicants to comply with the FESA and CESA.

Mitigation Measures

No mitigation measures are needed since no significant impacts to biological resources are anticipated. However, a long-term restoration program would be needed to ensure the sustainability of riparian-dependent species in the Watershed over time.

Level of Significance After Mitigation

Less than significant.

5.2.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

The type of temporary and permanent impacts to federally- and state-listed species and their habitat for two of the seven categories of regulated activities discussed in Section 4.3.2 would be similar under Alternative 3. Under this alternative, the construction and maintenance of roads, bridges, and utility lines would be authorized through the current regulatory programs.

As with existing Corps/Department permitting programs, construction and maintenance of bridges and utility lines could affect streambeds and/or result in discharges of dredged or fill material into jurisdictional waters, including habitat occupied by sensitive species. In addition to impacts to riparian areas, these activities could impact adjacent upland areas that may also support sensitive species and/or habitat upon which sensitive species rely. The discharges may result from required grading, excavation, boring, backfill, temporary stream diversion, dewatering operations, temporary construction access roads and work areas. Construction activities could temporarily displace sensitive wildlife and remove habitat. Human activity would cause most sensitive wildlife species to avoid an area until the disturbance conditions are eliminated. During temporary ground disturbing activities, less mobile wildlife species and plant life would be eliminated if located within the project footprint. Impacts to wildlife species are expected to be of limited duration. Noise generated during construction and maintenance of utility lines can have an indirect impact on listed wildlife species during the temporary work period. Noise can cause sensitive wildlife species to avoid an area until the disturbance conditions are eliminated. Bird populations and other mobile species would retreat from an area until after construction was complete. In addition, noise can cause potential disruption of breeding activities including nest abandonment for one or more seasons. Sensitive species that may be adversely affected by noise include the coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher.

In addition, downstream effects (indirect impacts) may result from a potential discharge of construction-related pollutants (e.g., concrete, waste oil, solvents, debris, etc) spilled, leaked or transported via storm runoff into habitat that may be inhabited or used by listed sensitive species. Construction of new utility projects may include downstream hydromodification and the influx of exotic plant species. These indirect impacts could, over time, reduce the sustainability of riparian areas and in turn affect the long-term habitat use by listed species.

Potential impacts to upland species may occur as development would be restricted to upland areas. Impacts to upland areas would be similar in nature to those addressed in Section 4.3.2. Future applicants would still have to comply with the NCCP, and potentially the FESA and CESA if a given project would affect a species not directly covered by the NCCP. For riparian species, if a project seeking authorization from the Corps would affect a listed species, then the Corps would conduct a Section 7 Consultation with the USFWS.

No Implementation of SAMP/WSAA Process

The discussion under Alternative 1 is applicable for this alternative.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Alternative 1 is applicable for this alternative. The NCCP and Section 7 process would require applicants to comply with the FESA and CESA. Any potential impacts as discussed above would be mitigated to a less than significant level through these regulatory programs and processes.

Mitigation Measures

No mitigation measures are needed since no significant impacts to biological resources are anticipated. However, a long-term restoration program would be needed to ensure the sustainability of riparian-dependent species in the Watershed over time.

Level of Significance After Mitigation

Less than significant.

5.2.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore land development could occur in accordance with the existing city and County General Plans, zoning codes and with full development of the MPAH. The type of temporary and permanent impacts (including both direct and indirect impacts) for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.3) as well as Alternative 1 would be similar under Alternative 4. However, the extent of impacts would be greater under this alternative as more land acreage in jurisdictional and upland areas would likely be developed.

In general, land development and other activities permitted under the SAMP/WSAA Process would include residential, commercial, industrial, institutional and recreational uses as well as attendant features to most uses. Impacts would typically include vegetation clearing, grading and excavation for construction access, building pads, roads and culverts; boring and trenching for utility, sewer and storm drain installation; and paving operations. These activities may result in discharge of fill or encroachment into stream channels, wetlands or unlined agricultural drainages, redirecting of surface runoff into underground storm drains, temporary stream diversion and dewatering operations. Construction may require the permanent removal of upland and riparian habitat that would permanently affect sensitive species. In addition, large land development activities may permanently disrupt migration corridors and make it difficult or impossible for wildlife to pass through or around a large development. Anticipated temporary and indirect impacts would be similar to those for Alternative 1.

Some projects may include features that could help reduce impacts below significance through compensatory mitigation, although projects that require removal or relocation of large portions of riparian reaches would result in a significant adverse impact. In addition, as this alternative allows for the possibility of increased density of projects throughout the Watershed, the likelihood of permanent losses of riparian and upland habitats is increased; thus, habitat areas critical for the maintenance of listed species would decline in amount and quality. On the Watershed scale, the magnitude of impacts that are possible under this alternative may lead to significant cumulative impacts to listed species and their habitats.

No Implementation of SAMP/WSAA Process

The discussion under Alternative 1 is applicable for this alternative.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Alternative 1 is applicable for this alternative. The NCCP and Section 7 process would require applicants to comply with the FESA and CESA. Given the applicable regulatory requirements, potential project-level impacts to biological resources would be avoided or reduced to a less than significant level.

Mitigation Measures

To mitigate for significant cumulative impacts, the Corps and the Department would need to adopt a comprehensive watershed-wide avoidance and mitigation program, with permitting based on aquatic resource integrity, such as proposed by the SAMP/WSAA Process.

Level of Significance After Mitigation

With the adoption of a comprehensive avoidance and mitigation program, like the SAMP/WSAA Process, potentially significant cumulative impacts would be reduced to less than significant.

5.2.3 Hydrology, Erosion and Sedimentation

Significance thresholds under CEQA are provided in Section 4.4.1.

5.2.3.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The type of temporary and permanent hydrologic impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.3) would be similar under Alternative 1. These impacts would generally include modified site runoff characteristics (direct effect), potential increase in erosion and sedimentation in downstream receiving waters (indirect effect), and some minor changes to groundwater recharge from increase in pervious surfaces (indirect effect). The Corps' Section 404 Permit and Department's Section 1600 streambed alteration agreement (i.e., Level 1 – 3 SAA templates of the WSAA Process) would include some general conditions to help reduce erosion and sedimentation. Other existing local and state regulations to control erosion and sedimentation (erosion control BMPs, site design BMPs, local grading ordinances) as described in Section 4.3 would be applicable and would help minimize adverse hydrologic impacts and downstream erosion and sedimentation for individual projects to less than significant levels. In addition, bridges and other in-channel construction such as for flood control would be designed in accordance with local requirements to minimize channel scour, upstream flooding and sedimentation in accordance with local and state requirements.

Under the No Project alternative, individual projects would not be evaluated and permitted based on ecosystem integrity, so no increased avoidance or minimization of impacts in areas of high hydrologic integrity would occur. As a result, this alternative would be less protective of the Watershed's hydrologic function than the proposed SAMP/WSAA Process and could result in greater potential for hydromodification and downstream erosion and sedimentation. Mitigation would not be accomplished strategically under a Strategic Mitigation Plan and Mitigation Coordination Program as proposed under

the SAMP/WSAA Process. Accordingly, future mitigation/restoration projects would not be strategically targeted to maintain and enhance the hydrologic function of the Watershed, so no cumulative benefits to the Watershed would be achieved under this alternative.

Mitigation Measures

None needed since no significant impacts are identified.

Level of Significance After Mitigation

Less than significant.

5.2.3.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under this alternative, no permitting of impacts in jurisdictional areas would occur including both construction and maintenance activities. Build-out of the full MPAH would not occur and remaining acreage available for development would be reduced. Additionally, most flood control construction and maintenance activities would not be allowed under this alternative.

With respect to land development activities in upland areas, this alternative would result in a decrease in the amount of impervious surface area, thereby resulting in reduced potential for hydrologic, sedimentation and erosion impacts into downstream receiving waters. No bridges, culverts, flood control facilities or other in-channel structures could be built, thereby reducing the potential adverse effects on channel stability during both the short-term construction phase and long-term operational phase.

Development would not encroach into existing drainage courses thereby maintaining the existing hydrologic function of the Watershed. However, no Strategic Mitigation Plan or Mitigation Coordination Program would be implemented, and thus no targeted restoration would occur in the Watershed to increase hydrologic function in the long term and ultimately provide a cumulative benefit to the Watershed's hydrologic regime.

No significant direct impacts to existing hydrologic function would be expected since no permits would be issued for activities in jurisdictional areas. Most likely, hydrologic effects including alteration of surface runoff, erosion, sedimentation and groundwater recharge characteristics would be minimized overall in the greater Watershed area, given that the acreage of upland areas available for development would be reduced. As discussed in Section 2.2.2, this alternative assumes all future land development in upland areas would be set back from jurisdictional areas by a minimum of 135 feet to avoid indirect impacts to the hydrologic, water quality, or habitat integrity of aquatic resources within the Watershed. As with existing case-by-case permitting, future projects in the Watershed would be required to implement existing erosion control and other best management practices (BMPs) required by local, state and federal agencies to control site runoff, erosion and sedimentation. Also, development in upland areas would be required to comply with the existing Orange County Hydrology and Flood Control Design Manual to properly manage storm water flows and prevent downstream flooding impacts. No BMPs or storm water control measures requiring a Corps or Department permit could be permitted however. Most such features would have to be implemented on-site and/or in upland areas. No significant impacts would be expected under this alternative with respect to land development activities.

However, potential significant impacts to some flood control facilities would be expected, as existing and planned flood control projects in jurisdictional areas could neither be constructed nor maintained. Flood control capacity of such facilities would eventually be exceeded as vegetation and sediment in channels and/or basins could not be removed or dredged. The long-term resulting effect would be a significant increase in potential flood hazards throughout the Watershed. No mitigation measures would be available to reduce this potential significant impact.

Mitigation Measures

Without a permitting program that allows flood control improvements and maintenance, no mitigation measures are available to reduce potential significant flood hazard impacts.

Level of Significance After Mitigation

Significant flood hazard impacts.

5.2.3.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under Alternative 3, the Corps and the Department would issue Section 404 Permits and Section 1600 SAAs allowing for temporary and permanent impacts associated with construction and maintenance of bridges and utility lines. No activities, apart from such bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Most flood control construction and maintenance activities would not be allowed under this alternative. Build-out of the full MPAH would be possible, however, any land development requiring fill in jurisdictional areas would not be allowed.

Under this alternative impacts to riparian drainages could occur without regard to the hydrologic integrity of the resources. Compensatory mitigation for jurisdictional impacts would not be in accordance with a Strategic Mitigation Plan, and thus, the overall hydrologic integrity of the Watershed would not be enhanced under this alternative and no cumulative hydrologic benefits to the Watershed would be achieved.

As with existing case-by-case permitting, bridge and utility construction in jurisdictional areas would affect the hydrologic characteristics in the impacted areas, including potential increases in stream flow rates and volumes as well as potential for bank instability and channel scour from bridge pilings. Potential changes could increase downstream channel erosion and sedimentation. However, as with existing case-by-case permitting, development under this alternative would be subject to the design requirements of the Orange County Flood Control Design Manual as well as local and state requirements to control erosion and sedimentation. No significant adverse impacts would be expected.

This alternative would allow for more land development in upland areas as compared to Alternative 2, and thus, greater changes to the existing hydrologic regime would be expected, including increased surface runoff from developed areas and potential increases in erosion and sedimentation in downstream channels (indirect impacts). As with all alternatives, future projects in the Watershed would be required to implement existing erosion control and other best management practices (BMPs) required by local, state and federal agencies to control erosion, sedimentation and site runoff. This would include compliance with general conditions of the Corps and Department's Section 404 Permits and Section 1600

SAAs that contain requirements to control erosion and sedimentation. Also, development in upland areas would be required to comply with the existing Orange County Hydrology and Flood Control Design Manual to properly manage storm water flows and prevent potential downstream flooding impacts. No significant impacts would be expected under this alternative with respect to land development activities.

Potential significant impacts to flood control facilities in jurisdictional areas would be expected, as existing and planned flood control projects in jurisdictional areas could neither be constructed nor maintained. Flood control capacity of existing facilities would eventually be exceeded as vegetation and sediment in channels and basins could not be removed or dredged. The long-term resulting effect would be a significant increase in potential flood hazards in the Watershed. Without a permitting program to allow these improvements, no mitigation measures would be available to reduce this potential significant impact.

Mitigation Measures

No mitigation measures have been identified to reduce potential significant flood hazard impacts.

Level of Significance After Mitigation

Significant flood hazard impacts.

5.2.3.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas. Therefore land development could occur in accordance with the existing city and County General Plans, zoning codes, and with full development of the MPAH. Existing and planned flood control facilities could be constructed and maintained under this alternative.

The type of temporary and permanent hydrologic impacts (including both direct and indirect impacts) for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.3) as well as Alternative 1 would be similar under Alternative 4. However, the extent of impacts would be greater as more land acreage in jurisdictional and upland areas would likely be developed under this alternative.

As discussed under Alternative 1, the types of impacts would generally include modified site runoff characteristics, potential increase in erosion and sedimentation in downstream receiving waters, and some decreases in groundwater recharge. Existing federal, state, and local regulations to manage site runoff and control erosion and sedimentation would be applicable and would help reduce potential adverse hydrologic impacts to less than significant levels. Bridges and other in-channel construction such flood control facilities would need to be designed to minimize channel scour, upstream flooding, and sedimentation in accordance with local and state requirements.

Unlike the proposed SAMP/WSAA Process, individual projects would not be evaluated and permitted based on ecosystem integrity, so no increased avoidance or minimization of impacts in areas of high hydrologic integrity would occur. As a result, this alternative would be less protective of the Watershed's hydrologic function, and could result in greater potential for hydromodification and downstream erosion and sedimentation. Mitigation would not be accomplished strategically under a Strategic Mitigation Plan and Mitigation Coordination Program as proposed under the SAMP/WSAA Process. Accordingly, future mitigation/restoration projects would not be strategically targeted to maintain and enhance the hydrologic function of the Watershed, so no cumulative benefits to the Watershed would be achieved under this alternative.

Mitigation Measures

None needed since no significant impacts are identified.

Level of Significance After Mitigation

Less than significant.

5.2.4 Water Quality

Significance thresholds under CEQA are provided in Section 4.5.1.

5.2.4.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The type of temporary and permanent water quality impacts (both direct and indirect) for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.4) would be similar under Alternative 1. Temporary impacts would generally include erosion and sedimentation into downstream receiving waters if not properly controlled; potential discharge of construction-related pollutants spilled, leaked or transported via storm runoff into receiving waters; and discharge from groundwater dewatering that may contain high levels of nitrates, phosphorous or pesticides from past agricultural activities as well as selenium and other naturally occurring pollutants in the area (indirect effects). Permanent impacts could include conversion of all or part of a natural, riparian drainage course into a concrete flood control channel, culvert, or permanent fill for land development which could adversely affect a designated beneficial use, such as warm freshwater habitat (WARM); wildlife habitat (WILD); biological habitats of special significance (BIOL); or rare, threatened or endangered species (RARE) if proper compensatory mitigation is not required and implemented (direct effects). Other effects on water quality may occur from vegetation removal affecting stream shading or bank stability and pollutant removal capacity. Land development would result in increased impervious surfaces draining new sources and types of polluted runoff in the Watershed during wet and dry weather, if not properly controlled by BMPs (indirect effect).

The Corps' Section 404 Permit and Department's Section 1600 streambed alteration agreement would include general conditions to help control erosion, sedimentation and other pollutants in site runoff during construction. Other existing local and state regulations to control water quality, such as compliance with CWA Section 404 and NPDES requirements (construction and municipal storm water permits) as described in Section 4.4 would be applicable and would help minimize potentially significant water quality impacts.

Under the No Project alternative, individual projects would not be evaluated and permitted based on ecosystem integrity, so no increased avoidance or minimization of impacts in areas of high water quality integrity would occur. As a result, this alternative would be less protective of the Watershed's water quality function than the proposed SAMP/WSAA Process. Compensatory mitigation would not be accomplished strategically under a Strategic Mitigation Plan and Mitigation Coordination Program as proposed under the SAMP/WSAA Process. Accordingly, future mitigation/restoration projects would not be strategically targeted to maintain and enhance water quality function of the Watershed, so no cumulative benefits to the Watershed would be achieved under this alternative.

Mitigation Measures

No mitigation measures are needed since potential significant impacts to water quality are expected to be reduced to less than significant with requirements of state and local agency programs to control water quality.

Level of Significance After Mitigation

Less than significant.

5.2.4.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under this alternative, no permitting of impacts in jurisdictional areas would occur. Build-out of the full MPAH would not occur and remaining acreage available for development would be reduced. This alternative would not result in any change to existing water quality conditions, and thus would avoid potential water quality impacts and any needed mitigation. No bridges, culverts, flood control facilities or other in-channel structures could be built, thereby reducing the potential short-term construction-related water quality impacts as well as permanent impacts to beneficial uses from conversion of riparian drainages.

Under this alternative, land development and other activities would not encroach into existing drainage courses thereby maintaining the existing water quality function of the Watershed. However, no Strategic Mitigation Plan or Mitigation Coordination Program would be implemented, and thus no targeted restoration would occur in the Watershed to increase water quality function in the long term and ultimately provide a cumulative benefit to downstream water quality.

No significant direct impacts would be expected since no permits would be issued for activities in jurisdictional areas. Potential indirect water quality impacts from development in upland areas would generally include increases in impervious surface areas draining new sources and types of polluted runoff in the Watershed during wet and dry weather, if not properly controlled by BMPs. However, such increases would be reduced overall given that upland areas available for development would be reduced under this alternative. As discussed in Section 2.2.2, this alternative assumes all future land development in upland areas would be set back from jurisdictional areas by a minimum of 135 feet to avoid indirect impacts to the ecosystem integrity of aquatic resources within the Watershed. As with existing case-by-case permitting, future projects in the Watershed would be required to implement BMPs required by existing local, state, and federal agencies to control pollutants in construction and post-development site runoff. Potential impacts would be reduced to less than significant.

Mitigation Measures

No mitigation measures are needed since no significant impacts to water quality are anticipated.

Level of Significance After Mitigation

Less than significant.

5.2.4.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under Alternative 3, the Corps and the Department would issue Section 404 Permits and Section 1600 SAAs allowing for temporary and permanent impacts associated with construction and maintenance of bridges and utility lines. No activities, apart from such bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Build-out of the full MPAH would be possible, however, any land development requiring fill in jurisdictional areas would not be allowed. Under this alternative, impacts to riparian drainages could occur without regard to the water quality integrity of the resources. Further, compensatory mitigation for jurisdictional impacts would not be in accordance with a Strategic Mitigation Plan, and thus, overall water quality integrity of the Watershed would not be enhanced under this alternative, and no cumulative benefits to the Watershed would be achieved.

As with existing case-by-case permitting, bridge and utility construction in jurisdictional areas could impact water quality from erosion and sedimentation into downstream waters if not properly controlled during construction. However, as with all alternatives, construction activities would be subject to state and local requirements to control sedimentation and other construction-related pollutants in site runoff. Direct permanent impacts could include conversion of all or part of a natural, riparian drainage course into a culvert or bridge, which could adversely affect a designated beneficial use, such as warm freshwater habitat (WARM); wildlife habitat (WILD); biological habitats of special significance (BIOL); or rare, threatened or endangered species (RARE). These potential impacts, however, would be mitigated with proper compensatory mitigation that would be required under current regulations.

This alternative would allow for more land development in upland areas as compared to Alternative 2, and thus greater increases in impervious surface area and potentially greater increases in pollutants loads to receiving waters of the Watershed (indirect effect). Most future projects in the Watershed would be subject to the NPDES storm water permit requirements to control pollutants in dry and wet weather runoff from newly developed areas, as discussed in Section 4.5. Thus, potentially significant water quality impacts would be reduced to less than significant.

Mitigation Measures

No mitigation measures are needed since no significant impacts have been identified.

Level of Significance After Mitigation

Less than significant.

5.2.4.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore land development could occur in accordance with the existing city and County General Plans, zoning codes and with full development of the MPAH. The type of temporary and permanent hydrologic impacts (including both direct and indirect impacts) for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.3) as well as Alternative 1 would be similar under Alternative 4. However, the extent of impacts would be greater under this alternative as more land acreage in jurisdictional and upland areas would likely be developed.

As discussed under Alternative 1, temporary impacts would generally include erosion and sedimentation into downstream receiving waters if not properly controlled; potential discharge of construction-related in storm water discharge draining to local receiving waters; and discharge from groundwater dewatering that may contain high levels of fertilizers or pesticides from past agricultural activities as well as selenium and other naturally occurring pollutants in the area (indirect effects). Permanent impacts could include conversion of all or part of a natural, riparian drainage course into a concrete flood control channel, culvert, or permanent fill for land development which could adversely affect a designated beneficial use, if proper compensatory mitigation is not required and implemented (direct effects). Other effects on water quality may occur from vegetation removal affecting stream shading or bank stability and pollutant removal capacity. Land development would result in increased impervious surfaces draining new sources and types of polluted runoff in the Watershed during wet and dry weather, if not properly controlled by BMPs (indirect effect). Nevertheless, potentially significant impacts could occur given that San Diego Creek and Newport Bay are impaired bodies. Existing regulatory programs would help mitigate potential impacts.

The Corps' Section 404 Permit and Department's Section 1600 streambed alteration agreement would include some general conditions to help control erosion, sedimentation, and other pollutants in site runoff during construction. Other existing local and state regulations to control water quality, such as compliance with CWA Section 404 and NPDES requirements (construction and municipal storm water permits) as described in Section 4.4 would be applicable and would help minimize potentially significant water quality impacts

Unlike the proposed SAMP/WSAA Process, individual projects would not be evaluated and permitted based on ecosystem integrity, so no increased avoidance or minimization of impacts in areas of high water quality integrity would occur. As a result, this alternative would be less protective of the Watershed's water quality function, and could result in greater potential for downstream water quality impacts to San Diego Creek and Newport Bay. Mitigation would not be accomplished strategically under a Strategic Mitigation Plan and Mitigation Coordination Program as proposed under the SAMP/WSAA Process. Accordingly, future mitigation/restoration projects would not be strategically targeted to maintain and enhance the water quality function of the Watershed, so no cumulative water quality benefits to the Watershed would be achieved under this alternative.

Mitigation Measures

None needed since no significant water quality impacts are expected.

Level of Significance After Mitigation

Less than significant.

5.2.5 Other Resources

Permitting of regulated activities under any of the alternatives would not, in most cases, produce direct impacts to the public interest review factors discussed herein in Section 5.2.5, since these factors generally cover non-jurisdictional resources in the greater Watershed area and would occur later in time than the direct effect. However, the Corps/Department permitting actions may indirectly affect these resources of the greater Watershed. As discussed in the following sections, most of these factors would likely be evaluated in more detail in other CEQA/NEPA documents required as part of the project approval process of other regulatory and/or land use agencies.

5.2.5.1 Agricultural Resources

Significance thresholds under CEQA are provided in Section 4.6.1.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

As with the proposed SAMP/WSAA Process authorization of regulated activities under the existing Corps and Department permitting programs could indirectly affect agricultural resources, if permits result in the conversion of Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use or it conflicts with existing zoning for agricultural use or a Williamson Act contract. As discussed in Section 4.6.1, most of the remaining undeveloped land in the Watershed that is proposed for new development is no longer designated agricultural preserve under the Williamson Act since contracts were not renewed. Additionally, any new development that would be located in areas designated unique farmlands and farmlands of statewide importance (primarily located in the southern foothills of the Santiago Hills and along the northern foothills of the San Joaquin Hills) would be subject to the regulatory approval of the local municipality. Land development would be subject to the policies and objectives in the Resources Element of the Orange County General Plan as well as the General Plans for some jurisdictions within the Watershed (e.g., the cities of Orange, Irvine, and Tustin). These General Plans contain objectives and policies that promote the wise management of existing agricultural lands while still recognizing that such uses are temporary. Thus, no significant indirect impacts to agricultural preserves would be expected.

Mitigation Measures

None required since no significant agricultural resource impacts are anticipated.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in jurisdictional areas would not be permitted. New land development requiring fill in jurisdictional drainages, or culverts or bridges in jurisdictional areas for road development could not occur. Total remaining developable acreage in the Watershed would be reduced in comparison to existing case-by-case permitting, and would occur in upland areas not requiring new bridges/culverts across jurisdictional drainages. As with the proposed SAMP/WSAA Process and Alternative 1, no significant impacts to agricultural resources would be expected given that there are no remaining agricultural preserves, and that any development in areas designated unique farmlands and farmlands of statewide importance would be subject to the regulatory approval of the local municipality, and thus subject to a separate environmental review process.

Mitigation Measures

None required since no significant agricultural resource impacts are anticipated.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under Alternative 3, the Corps and the Department would issue Section 404 Permits and Section 1600 SAAs allowing for temporary and permanent impacts associated with construction and maintenance of bridges and utility lines. No activities, apart from such bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Under this alternative, more remaining developable acreage could be permitted than under Alternative 2, since new development in upland areas requiring bridges or culverts for access could be allowed. However, no other regulated activities such as land development that require discharge of dredge or fill in jurisdictional areas would be permitted.

As with the proposed SAMP/WSAA Process and Alternative 1, no significant impacts to agricultural resources would be expected given that there are no remaining agricultural preserves and that any development in upland areas designated unique farmlands and farmlands of statewide importance would be subject to the regulatory approval of the local municipality.

Mitigation Measures

None needed since no significant adverse impacts to agricultural resources are expected.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas. Therefore remaining build-out of the Watershed could occur in accordance with the existing city and County General Plans, zoning codes, and

with full development of the MPAH. Potential for agricultural resource impacts would be greater under this alternative as more land acreage in jurisdictional and upland areas could potentially be developed. However, no remaining agricultural preserves would be impacted, and full build-out including development in areas designated unique farmlands and farmlands of statewide importance would be subject to the policies and objectives in the Resources Element of the Orange County General Plan as well as the General Plans for some jurisdictions within the Watershed (e.g., the cities of Orange, Irvine, and Tustin). These General Plans contain objectives and policies that promote the wise management of existing agricultural lands while still recognizing that such uses are temporary. Thus, no significant indirect impacts to agricultural resources would be expected.

Mitigation Measures

No mitigation measures are needed since no significant agricultural resource impacts have been identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2 Air Quality

Significance thresholds under CEQA are provided in Section 4.6.2.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

Impacts

The type of short-term construction and long-term operational air quality impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.2) would be similar under Alternative 1. Temporary construction activities would generate emissions of criteria pollutants and GHGs due to the use of diesel and gasoline powered equipment, earthmoving activity, and vehicular/truck travel (indirect effects). Long-term, post-construction (indirect) mobile source emissions of criteria pollutants and GHGs could be generated primarily from increases in vehicle traffic associated with new development along with increased emissions associated with increased energy consumption. Standard mitigation measures promulgated by SCQAMD for dust control and diesel emissions would be required if needed, to reduce potential impacts to less than significant levels.

Mitigation Measures

As stated in Section 4.6.2, it is generally beyond the Corps' and the Department's statutory limits of authority to require the implementation of mitigation measures for post-construction, operational air quality impacts of a built project. During the project approval process, local land use authorities or other regulatory agencies can require a variety of air quality mitigation measures depending on the type and extent of project impacts. Example mitigation measures, as discussed in Section 4.6.2 include various construction practices to control PM10 and measures to control diesel and other vehicle emissions. The types of mitigation measures to control GHG emissions, particularly carbon dioxide emissions from land development activities, as discussed in Section 4.6.2, involve public transit-oriented development to reduce traffic increases, and building design criteria to control carbon output. Other standard measures to reduce transportation emissions such as use of alternative fuels, would help limit increases in GHG

emissions. In addition, regulations are ongoing to control emissions, specifically from construction vehicles (e.g. engines) and equipment. Cleaner engines and cleaner fuels are intended to reduce overall emissions, and specifically GHG emissions.

Level of Significance After Mitigation

No significant direct impacts from individual projects are known at this time. Although the potential for indirect cumulative impacts cannot be conclusively determined at this time, the potential for future projects to contribute to the effects of global GHG emissions may be considered cumulatively significant and unavoidable.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in jurisdictional areas would not be permitted. Thus, total remaining developable acreage in the Watershed would be reduced in comparison to existing case-by-case permitting, and would occur in upland areas not requiring new bridges/culverts across jurisdictional drainages. With the reduction in allowable construction and maintenance activities, short-term construction emissions and long-term emissions of criteria pollutants and GHGs from vehicle fuel and energy consumption would be reduced.

Mitigation Measures

See discussion in Section 5.2.6.1 above.

Level of Significance After Mitigation

No significant impacts known at this time.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

No activities, apart from bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Under this alternative, more remaining developable acreage could be permitted than under Alternative 2, since bridges allowing access to upland areas could be permitted. However, no other regulated activities, including land development in jurisdictional areas would be permitted.

With some reduction in construction and maintenance activities for most regulated activities, short-term construction emissions (construction equipment and vehicles) and long-term emission of criteria pollutants and GHGs from operation of vehicles and energy consumption would be reduced

Mitigation Measures

See discussion in Section 5.2.6.1 above.

Level of Significance After Mitigation

No significant impacts known at this time.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas. Therefore land development could occur in accordance with the existing city and County General Plans, zoning codes, and with full development of the MPAH. The type of short-term construction and long-term operational air quality impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.2) as well as Alternative 1 would be similar under Alternative 4. However, the extent of impacts would be greater under this alternative as more land acreage in jurisdictional and upland areas would likely be developed.

As discussed under Alternative 1, temporary impacts would generally include increased emissions of criteria pollutants and GHGs due to the use of diesel and gasoline powered equipment, earthmoving activity, and vehicular/truck travel (indirect effects). Long-term, post-construction (indirect) mobile source emissions of criteria pollutants and GHGs would be generated primarily from increases in vehicle traffic associated with new development along with increased emissions associated with increased energy consumption.

Cumulative development from full build-out of the general plans would contribute criteria pollutants to the Basin, which is currently a non-attainment area for O₃, PM_{2.5} and PM₁₀, and in violation of air quality standards. As a result, implementation of Alternative 4, build-out of the Watershed could result in indirect significant cumulative impacts to regional air quality. Additionally, the increase in GHG emissions would result in the incremental contribution to cumulative GHG emissions and global warming.

Mitigation Measures

See discussion in Section 5.2.6.1 above.

Level of Significance After Mitigation

No significant direct impacts from individual projects are known at this time. Although the potential for indirect cumulative impacts cannot be conclusively determined at this time, the potential for future projects to contribute to the effects of global GHG emissions may be considered cumulatively significant and unavoidable.

5.2.5.3 Cultural Resources

Significance thresholds under CEQA are provided in Section 4.6.3.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

Under the No Project Alternative, no watershed-based planning and permitting would be undertaken by the Corps and Department. Construction and maintenance activities that involve impacts to jurisdictional areas within the Watershed would continue to be considered on a case-by-case basis as is currently done by the Corps and Department. The type and extent of cultural resource impacts from the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.3) would be similar under Alternative 1. The regulated activities would likely involve land disturbance, and therefore could

affect unknown cultural resources. However, the Watershed is a mostly a disturbed landscape and it is not expected that construction and maintenance activities would result in significant effects to cultural resources.

Projects requiring a Corps SIP would require evidence of compliance with Section 106 of the National Historic Preservation Act (NHPA). These regulations stipulate that when the lead agency finds that either no historic properties are present, or historic properties are present but the undertaking would have no effect upon them, then the lead agency shall make a “no historic properties affected” determination (36 CFR Part 800.4[d]). If the lead agency finds that there are historic properties which may be affected by the undertaking, the lead agency would make a “historic properties affected” determination. Specifically, if archaeological resources are discovered on a particular project site requiring a Corps authorization and within the Corps APE, the Corps, in coordination with the SHPO, would evaluate the cultural resource for eligibility for listing in the NRHP pursuant to the NHPA.

Mitigation Measures

Example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce project-specific cultural resources impacts to less than significant are described in Section 4.6.3.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in Corps and Department jurisdictional areas would not be permitted. Therefore, no direct impacts to cultural resources would occur in jurisdictional areas. Remaining developable acreage in the Watershed would be reduced under this alternative since bridges and/or culverts needed to provide access to upland areas (as planned in the County MPAH) would not be permitted. Potential cultural resources impacts, if any, from development and other activities in upland areas, would be reduced under this alternative.

Mitigation Measures

See example mitigation measures discussed in Section 4.6.3.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

No activities, apart from bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Under this alternative more remaining developable acreage could be permitted than under Alternative 2, since bridges providing access to upland areas would be allowed. However, no other regulated activities, including land development in jurisdictional areas would be permitted.

Bridge and utility line construction would involve land disturbance, and therefore could affect unknown cultural resources that may be present in jurisdictional areas. However, the Watershed is a mostly a

disturbed landscape and it is not expected that such construction and maintenance activities would result in significant effects to cultural resources. Any bridge or utility project requiring a Corps SIP would require evidence of compliance with Section 106 of the NHPA.

With regard to indirect effects in upland areas, remaining developable acreage in the Watershed would be slightly reduced under this alternative since any development in upland areas requiring fill in jurisdictional areas would not be permitted. Therefore, potential indirect effects on cultural resources would be slightly reduced. Individual projects would be evaluated under a separate environmental review process at which time the local lead agency would determine any potential direct or indirect effects on cultural resources and what mitigation measures, if any, would be needed to reduce impacts.

Mitigation Measures

See example mitigation measures discussed in Section 4.6.3.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas. Therefore land development could occur in accordance with the existing city and County General Plans, zoning codes, and with full development of the MPAH. While land in the Watershed is mostly a disturbed landscape, regulated activities could uncover unknown cultural resources. The extent of potential direct and indirect impacts to cultural resources would be greater under this alternative, as compared to the proposed SAMP/WSAA Process and Alternative 1 as more land acreage in jurisdictional and upland areas would likely be developed. As discussed in Alternative 1, projects requiring a Corps SIP would require evidence of compliance with Section 106 of the NHPA.

Mitigation Measures

See example mitigation measures discussed in Section 4.6.3.

Level of Significance After Mitigation

Less than significant.

5.2.5.4 Flood Hazards and Floodplain Values

See Section 5.2.3, Hydrology, Erosion and Sedimentation.

5.2.5.5 Geology/Soils

Significance Thresholds

Significance thresholds under CEQA are provided in Section 4.6.5.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The types of potential direct and indirect geology and soil impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.5) would be similar under

Alternative 1. Permitting of activities in jurisdictional and upland areas would require grading, excavation, boring, trenching, cut and fill activities, soil compaction, and possible import or export of fill material. These activities could result in erosion of soil if not properly controlled. Projects would be required to follow approved grading and erosion control plans, construction storm water pollution prevention plans (SWPPPs), water quality management plans, and specific conditions of the Corps permit and Department streambed alteration agreement that address erosion and sedimentation.

New development and infrastructure projects that could be permitted under Alternative 1 would be subject to the same seismic groundshaking facing all new and existing development projects in seismically-active Southern California. Future development would be regulated under requirements of the California Building Code, Alquist Priolo Special Studies Zone Act, City/County land use policies and zoning, and project-specific requirements to address seismic issues as well as other potential soil instability issues. As required by State and local codes, additional geotechnical studies would be performed to develop final seismic design recommendations as well as recommendations to address potential landslides and expansive soils if needed. Future projects would be constructed to meet seismic design requirements for ground shaking and other potential geologic hazards in accordance with State and local codes. Proper design and construction of the project components would minimize potential impacts.

Mitigation Measures

Example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific geology/soils impacts to less than significant are listed in Section 4.6.5.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in Corps and Department jurisdictional areas would not be permitted. Therefore, soils and other geological resources in jurisdictional areas would not be directly affected. Remaining developable acreage in the Watershed would be reduced under this alternative since bridges and/or culverts needed to provide access to upland areas (as planned in the County MPAH) would not be permitted. Therefore, the extent of potential seismic and other geologic hazards from development of habitable structures in upland areas would be reduced under this alternative.

Mitigation Measures

See example mitigation measures discussed in Section 4.6.5.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

No activities, apart from bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Under this alternative more remaining developable acreage could be permitted than under Alternative 2, since bridges providing access to upland areas would be allowed. However, no other regulated activities, including land development in jurisdictional areas would be permitted.

Bridge and utility line construction in jurisdictional areas could create soil erosion in channels if not properly designed and constructed. Projects would be subject to the design standards of the Orange County Flood Control Design Manual (County of Orange 2000) to minimize potential for channel scour. Land development activities in upland areas would be required to follow approved grading and erosion control plans, construction SWPPPs, water quality management plans, and specific conditions of the Corps permit and Department streambed alteration agreement that address erosion and sedimentation.

With regard to indirect effects in upland areas, remaining developable acreage in the Watershed would be slightly reduced under this alternative since any development in upland areas requiring fill in jurisdictional areas would not be permitted. Therefore, potential indirect effects on habitable (seismic groundshaking, landslide potential, expansive soils) would be slightly reduced.

Mitigation Measures

See example mitigation measures described in Section 4.6.5.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas. Therefore land development could occur in accordance with the existing city and County General Plans, zoning codes, and with full development of the MPAH. The extent of potential direct and indirect impacts to soil and geologic resources as described in Alternative 1 could be slightly greater under this alternative, as slightly more acreage in jurisdictional and upland areas would likely be developed. Therefore, potentially more habitable structures could be built, subject to seismic groundshaking and other potential geological hazards. Individual projects would be subject to the design requirements discussed in Section 4.6.5 to reduce any potential impacts to less than significant.

Mitigation Measures

See example mitigation measures described in Section 4.6.5.

Level of Significance After Mitigation

Less than significant.

5.2.5.6 Land Use

Significance thresholds under CEQA are provided in Section 4.6.6.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

No direct impacts to land use would be expected under Alternative 1. Activities, including land development that require a Corps or Department permit for discharges of dredged or fill material into jurisdictional waters would continue to be considered on a case-by-base basis without a watershed-based plan that considers ecosystem integrity. No direct effect on existing land use plans, policies or regulations of any land use agency in the Watershed including the regional NCCP/HCP for Central/Coastal Orange County would occur. Similarly, no established communities would be physically divided based on the existing case-by-case permitting process.

Mitigation Measures

No mitigation measures are needed since no significant land use impacts have been identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in Corps and Department jurisdictional areas would not be permitted. Remaining developable acreage in the Watershed would be reduced under this alternative since some areas of otherwise developable land would not be permitted if it required fill in jurisdictional areas or bridges and/or culverts in jurisdictional areas to provide access. However, most of the Watershed is nearly built-out or permitted, and thus no major land use impacts would be anticipated. No conflicts with the NCCP/HCP would be anticipated.

Mitigation Measures

None needed since no significant land use impacts were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under Alternative 3, regulated activities in Corps and Department jurisdictional areas would not be allowed except for construction and maintenance of bridges and utility lines. Some remaining developable acreage in the Watershed would likely be reduced under this alternative since some areas of otherwise developable land would not be permitted if it required fill in jurisdictional areas. No conflicts with the NCCP/HCP would be anticipated.

Mitigation Measures

None needed since no significant land use impacts were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 allows for full build-out of the local general plans for jurisdictions in the Watershed. Development could occur without specific requirements for avoidance of jurisdictional areas or areas of high ecosystem integrity. For comparative purposes, Alternative 4 would result in a greater intensity of land development and other infrastructure construction and maintenance activities as compared to Alternative 1, existing case by-case permitting. No direct impacts to land use as specified in the local general plans would be expected. No established communities would be divided, and no impacts to the existing NCCP/HCP areas would be anticipated.

Mitigation Measures

No mitigation measures are required since no significant land use impacts were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.7 Noise

Significance thresholds under CEQA are provided in Section 4.6.7.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The type of short-term construction and long-term operational noise impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.2) would be similar under Alternative 1. The primary source of increased short-term noise associated with regulated activities is construction including grading and excavation for individual sites, and operation of construction vehicles and equipment. The greatest potential for noise impacts occurs when construction activities are directly adjacent to sensitive receptors (i.e., residences, hospitals, day care centers, schools, churches, and libraries). Indirectly, long-term increases in the ambient noise environment of the Watershed would be created by post-construction residential, commercial, and industrial land development projects and other facility/utility projects that could be permitted under the SAMP/WSAA Process permitting procedures.

Several municipal ordinances are in place to help control project noise impacts, as described in Section 4.6.7. Compliance with these noise ordinances would help reduce potential noise impacts.

Mitigation Measures

Section 4.6.7 contains a list of example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific construction and operational noise impacts to less than significant.

Level of Significance After Mitigation

No significant impacts anticipated.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in jurisdictional areas would not be permitted. Thus, total remaining developable acreage in the Watershed would be reduced in comparison to existing case-by-case permitting, and would occur in upland areas not requiring new bridges/culverts across jurisdictional drainages. With the reduction in allowable construction and maintenance activities, short-term increases in the ambient noise environment from construction activities would be reduced. Long-term increases in noise from stationary sources (residential, commercial, industrial developments) as well as traffic noise from new development (mobile sources) would be reduced, as less land development would be generated under this alternative.

Mitigation Measures

See example mitigation measures listed in Section 4.6.7.

Level of Significance After Mitigation

No significant impacts anticipated.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

No activities, apart from bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Under this alternative, more remaining developable acreage could be permitted than under Alternative 2, since bridges allowing access to upland areas would be allowed. However, no other regulated activities, including land development in jurisdictional areas would be permitted.

With some reduction in construction and maintenance activities for most regulated activities, short-term construction noise and long-term noise impacts from new development and associated traffic would be reduced in comparison to the proposed SAMP/WSAA Process and existing case-by-case permitting.

Mitigation Measures

See example mitigation measures listed in Section 4.6.7.

Level of Significance After Mitigation

No significant impacts anticipated.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore land development could occur in accordance with the existing city and County General Plans, zoning codes and with full development of the MPAH. The type of short-term construction and long-term noise impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.2) as well as Alternative 1 would be similar under Alternative 4. However, the extent of impacts would be greater under this alternative as more land acreage in jurisdictional and upland areas would likely be developed.

As discussed under Alternative 1, temporary impacts would generally include increased noise from grading and construction activities. Indirectly, long-term, post-construction noise from new development and associated vehicle traffic would be increased. Individual projects would be required to undergo separate environmental review by the local lead agency to determine project-specific and cumulative impacts. Mitigation measures would be identified to reduce potential impacts.

Mitigation Measures

See example mitigation measures listed in Section 4.6.7.

Level of Significance After Mitigation

No significant impacts anticipated.

5.2.5.8 Public Health and Safety

Significance thresholds under CEQA are provided in Section 4.6.8.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The type of indirect impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.8) would be similar under Alternative 1. Permitting of land development activities would indirectly generate new residential, commercial, and industrial land uses with their associated increases in residential population and commercial/industrial activities. This increase can have minor indirect effects on public health and safety. New population in the area would increase demand for existing fire and police services as well as demands on existing utilities such as sewerage systems, natural gas, electricity and telephone/cable services, but would unlikely require the construction of major new facilities since most of the Watershed is now nearly built-out. New residential, commercial/industrial land uses would generate a minor increase in household and commercial/industrial hazardous waste in the area, but not beyond the level that could be handled by existing waste management operators. Storm water treatment and management facilities as well as flood control facilities may pose a risk to public health and safety from potential vectors in areas of stagnant water. Various vector control measures coordinated with Orange County Vector Control District (OCVCD) are typically incorporated into the maintenance/management plans for these facilities to reduce potential vector risks. Thus, no significant impacts to public health and safety would be anticipated under Alternative 1.

Mitigation Measures

Example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific public health and safety impacts to less than significant are listed in Section 4.6.8.

Level of Significance after Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in Corps and Department jurisdictional areas would not be permitted. Remaining developable acreage in the Watershed would be reduced under this alternative since bridges and/or culverts needed to provide access to upland areas (as planned in the County MPAH) would not be permitted. Additionally, any other types of infrastructure projects requiring dredged or fill in jurisdictional waters would not be permitted, such as flood control construction or maintenance activities or storm water management facilities. Overall, the potential for public health and safety impacts would be reduced under this alternative, as fewer increases in population would place less demand on fire and police services and utilities, and generation of commercial/industrial hazardous waste would be reduced.

Mitigation Measures

None needed since no significant public health and safety impacts are identified.

Level of Significance after Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under Alternative 3, remaining developable acreage in the Watershed would be reduced under this alternative as compared to existing case-by-case permitting and many flood control construction and maintenance activities as well as storm water management facilities could not be permitted. Overall, the potential for public health and safety impacts would be reduced under this alternative as fewer increases in population would place less demand on fire and police services and utilities, and generation of commercial/industrial hazardous waste would be reduced. However, the reduction in potential impacts would be less than under Alternative 2.

Mitigation Measures

None needed since no significant public health and safety impacts are identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas. Therefore land development could occur in accordance with the existing city and County General Plans, zoning codes, and with full development of the MPAH. Additionally, all other regulated activities could be permitted including bridges, culverts, flood control and storm water management facilities. The types of indirect impacts to public health and safety as described in Alternative 1 would be similar, though perhaps to a slightly greater extent under Alternative 4.

Mitigation Measures

See discussion of example mitigation measures in Section 4.6.8.

Level of Significance After Mitigation

Less than significant.

5.2.5.9 Recreation

Significance thresholds under CEQA are provided in Section 4.6.9.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

Case-by-case permitting of regulated activities could temporarily impact portions or small areas of existing recreational facilities, such as parks, hiking or biking trails if regulated activities take place within or adjacent to such facilities. Temporary impacts could include increased noise, increased dust, and change in visual character. Also, local access to certain areas could be temporarily interrupted or impeded. Long-term impacts could include change in aesthetic qualities (e.g. permanent removal of vegetation, installation of rip rap, construction of a new culvert or new bridge). Also, some regulated activities such as land development for residential uses could generate an increased need for new recreational facilities, and/or increase usage at existing recreational facilities, which could be considered an indirect effect. Municipalities of the Watershed have recreation and park planning goals and policies listed in their general plans, and have implemented strategies to provide local park facilities and recreation areas that are appropriate for the individual neighborhoods and communities within their respective jurisdictions. Thus, no significant adverse recreation impacts are expected under Alternative 1.

Mitigation Measures

No mitigation measures are needed because no significant impacts to recreational resources were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under this alternative, no activities requiring dredge or fill in jurisdictional areas could be permitted including land development, bridges, and flood control facilities. No direct impacts to existing recreational facilities would be expected. Also, with reduced land area available for development activities, as compared to the proposed SAMP/WSAA Process, a smaller increase in residential population would occur, thereby reducing the demand on existing recreational parks and trails (smaller indirect effect). No significant impacts would be expected.

Mitigation Measures

No mitigation measures are needed because no significant impacts to recreational resources were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under this alternative, only bridges and utilities would be permitted in jurisdictional areas. Fewer potential impacts to recreational facilities (e.g. temporary construction impacts, long-term change in visual character) would be expected as compared to the proposed SAMP/WSAA Process since fewer areas could be developed. With a reduction in land area available for development, smaller increase in residential population would occur, thereby reducing the demand on existing recreational parks and trails. No significant impacts would be expected.

Mitigation Measures

No mitigation measures are needed because no significant recreation impacts were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore, full build out of the MPAH along with land development would occur in accordance with the applicable General Plans and zoning codes. of jurisdictions in the Watershed. Also, all other regulated activities in jurisdictional areas could be fully permitted.

Under Alternative 4, the types of temporary construction impacts and long term aesthetic impacts to existing recreational facilities would be similar to the proposed SAMP/WSAA Process. However, the extent of recreational use impacts could be slightly greater since potentially more residential development in jurisdictional and upland areas could built-out under this Alternative, placing a greater demand on existing recreational facilities. Local municipalities in the Watershed have recreation and park planning goals and policies listed in their general plans, and have implemented strategies to provide local park facilities and recreation areas that are appropriate for the individual neighborhoods and communities within their respective jurisdictions. No significant adverse recreational impacts are expected.

Mitigation Measures

No mitigation measures are needed because no significant impacts to recreational resources were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.10 Socioeconomics

Significance thresholds under CEQA are provided in Section 4.6.10.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

As with the proposed SAMP/WSAA Process, future land development permitted on case-by-case basis would indirectly increase housing in the Watershed, and thus, indirectly induce population growth. Planned growth would be expected to occur in accordance with the general plans and housing elements of the local jurisdictions and be consistent with SCAG growth projections. An increase in housing could be considered an indirect, beneficial effect as residential development projects would help meet housing demand based on job and population growth projections. Land development would also result in short-term construction jobs and would bring new industrial, commercial/retail development projects to the area, in accordance with the general plans and economic policies of the local jurisdictions. These developments would generate income for the Watershed, which would also be considered an indirect, beneficial effect on socioeconomic conditions. No significant adverse socioeconomic impacts in the Watershed would be expected.

Mitigation Measures

No mitigation measures are needed because no significant socioeconomic impacts were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under this alternative, no activities requiring dredge or fill in jurisdictional areas could be permitted including land development, bridges, and flood control facilities. Compared to the proposed SAMP/WSAA Process, this alternative would provide fewer socioeconomic benefits to the Watershed as fewer increases in development would occur. Opportunities for new housing to meet planned growth and economic projections would be reduced. Also fewer jobs would be generated. However, no significant impacts to socioeconomic conditions would be expected.

Mitigation Measures

No mitigation measures are needed since no significant socioeconomic impacts have been identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under this alternative, only bridges and utilities would be permitted in jurisdictional areas. Planned development that would result in jurisdictional impacts could not be developed. As a result, fewer beneficial socioeconomic impacts would be expected as compared to the proposed SAMP/WSAA Process since fewer areas could be developed with residential housing and other types of development that could generate economic benefits and help meet planned growth for the Watershed. However, no significant impacts would be expected.

Mitigation Measures

No mitigation measures are needed because no significant socioeconomic impacts were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore land development could occur in accordance with the existing city and County General Plans, zoning codes and with full development of the MPAH. Slightly more acreage in jurisdictional and upland areas could be developed under this alternative as compared to the proposed SAMP/WSAA Process and existing case-by-case permitting. Accordingly, more residential housing and other types of development would generate greater economic benefits for cities in the Watershed and help meet planned growth. No significant impacts would be expected.

Mitigation Measures

No mitigation measures are needed because no significant socioeconomic impacts were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.11 Transportation/Circulation

Significance thresholds under CEQA are provided in Section 4.6.11.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The type of short-term construction and long-term operational impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.11) would be similar under Alternative 1. Temporary construction and maintenance activities would result in additional worker traffic in various locations of the Watershed. Construction and maintenance activities would generate short-term, mostly minimal increases in traffic, and could temporarily disrupt traffic flow if activities require work in the street right-of-way. Long-term, land development projects permitted under existing case-by-base basis would be expected to generate increases in local traffic volumes from new residential, commercial and industrial projects, and could require the addition and/or expansion of local roads to meet local and regional circulation needs. New roads would be planned in accordance with the County MPAH and local general plans. Although it is not possible to identify the traffic impacts of a

project without a specific project proposal, it is possible that certain projects may result in potentially significant traffic impacts that would require mitigation.

Mitigation Measures

Example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific traffic/circulation impacts to less than significant are listed in Section 4.6.11.

Level of Significance After Mitigation

No significant impacts anticipated.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under the Complete Avoidance Alternative, regulated activities that would encroach on federal and state jurisdictional waters would not be permitted including construction and maintenance of flood control facilities, utilities, bridges. Remaining build-out of the Watershed under the local general plans would not occur and full development of the County MPAH would not occur. This could substantially affect the ability to provide access through several of the currently undeveloped City and County areas within the Watershed, a potentially significant impact. Alternative 2 would result in some new residential and office/industrial development within the Watershed; however, development acreage would be significantly less than the proposed SAMP/WSAA Process and existing case-by-base permitting. Short-term construction and maintenance-related traffic would be reduced as would long term traffic generated from new development. Although it is not possible to identify the traffic impacts of a project without a specific project proposal, it is possible that certain projects may result in potentially significant traffic impacts that would require mitigation.

Mitigation Measures

See example mitigation measures listed in Section 4.6.11.

Level of Significance After Mitigation

Potentially significant impacts.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under this alternative, only bridges and utilities would be permitted in jurisdictional areas. Planned development that would result in jurisdictional impacts could not be developed. Construction and maintenance of flood control facilities could not occur. Land development in jurisdictional areas could not be built. Traffic from construction and maintenance activities and new development would be reduced as compared to the SAMP/WSAA Process and existing case-by-case permitting. Individual projects would be subject to environmental review by the local lead agency. No significant traffic impacts would be expected.

Mitigation Measures

See example mitigation measures in Section 4.6.11.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore, regulated activities including and land development within the cities and County planning areas within the Watershed would occur in accordance with the applicable City and County General Plans and zoning codes with full development of the MPAH.

Minor increases in traffic for construction and maintenance activities would generally be similar to the proposed SAMP/WSAA Process and existing case-by-case permitting. This alternative would result in long-term increases in traffic associated with new development, and could be slightly greater than the proposed SAMP/WSAA Process and existing case-by-case permitting. Although it is not possible to identify the traffic impacts of a project without a specific project proposal, it is possible that certain projects may result in potentially significant traffic impacts that would require mitigation.

Mitigation Measures

See discussion of example mitigation measures in Section 4.6.11.

Level of Significance After Mitigation

No significant impacts anticipated.

5.2.5.12 Visual Resources

Significance thresholds under CEQA are provided in Section 4.6.12.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

The types of potential visual resource impacts for the seven categories of regulated activities described for the proposed SAMP/WSAA Process (Section 4.6.12) would be similar under Alternative 1. Short-term construction associated with the installation of bridges, public facilities/utilities, and land development would cause various disturbances to landforms from grading, excavation, stockpiling, and filling. The presence of construction equipment and vehicles at a construction site would create a visual impact in the construction zone. Additionally, grading of hillsides may be visible from a broader area of the Watershed. In general, short-term construction impacts are considered adverse, but not significant, because they would be temporary and mostly localized, and because construction activities including hillside grading are not uncommon in the region.

Long-term visual changes are primarily associated with permanently altering the natural topography and constructing new buildings. Most remaining new development in the Watershed would result in the conversion of remaining tracts of agricultural land and former MCAS El Toro lands into suburban residential, commercial, and open space/park uses similar to the majority of existing development in the

Watershed. This conversion would alter the visual character of localized areas, and also impact views of surrounding Santiago and San Joaquin Hills from some locations including several major streets such as Sand Canyon, Jeffrey Road, Culver Drive, and Laguna Canyon Road. However, new residential and commercial development would be planned and designed in accordance with the existing suburban/urban character of the area, and would not be expected to produce a significant adverse visual change in the Watershed overall, though some local areas could experience significant, adverse impacts (both in terms of obstruction of views and change in visual character).

New land development would also introduce new sources of light and glare. However, light that would be generated would be typical of urban development, and would not substantially affect views in this area either at night or during the day. Typical development standards required by local zoning ordinances would address the issue of light and glare.

Bridge development and streambed stabilization measures (e.g. rip rap) in a natural drainage channel would alter the existing visual character of the drainage and its surroundings, resulting in a potential indirect impact, depending on visual accessibility. Other regulated activities such as flood control and utility maintenance activities would not substantially affect the existing scenic environment, and most such activities would be short-term.

Mitigation Measures

Example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific visual impacts to less than significant are listed in Section 4.6.12.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under Alternative 2, regulated activities in Corps and Department jurisdictional areas would not be permitted. As a result, fewer areas would be available for new land development, as well as bridge, flood control, and utility construction and maintenance, thus minimizing the extent of short-term and long-term visual change in the Watershed overall. Conversion of undeveloped agricultural and hillside land into new residential or commercial/industrial development would produce adverse visual impacts, however, the aesthetic character would be consistent with existing development in the Watershed, and therefore no significant visual resource impacts would be expected.

Mitigation Measures

See example mitigation measures listed in Section 4.6.12.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

No activities, apart from bridge and utility construction and maintenance, would be authorized in jurisdictional areas. Under this alternative more remaining developable acreage could be permitted than under Alternative 2, since bridges providing access to upland areas would be allowed. However, no other regulated activities, including land development in jurisdictional areas would be permitted. As a result, fewer areas would be available for new land development, thus minimizing the extent of short-term and long-term visual change in the Watershed overall. Conversion of undeveloped agricultural and hillside land into new residential or commercial/industrial development would produce adverse visual impacts. However, the aesthetic character would be consistent with existing development in the Watershed, and therefore no significant visual resource impacts would be expected.

Bridge development and streambed stabilization measures (e.g. rip rap) in a natural drainage channel would alter the existing visual character of the drainage and its surroundings, resulting in an indirect adverse impact, depending on visual accessibility.

Mitigation Measures

See example mitigation measures in Section 4.6.12.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore land development could occur in accordance with the existing city and County General Plans, zoning codes and with full development of the MPAH. The extent of short-term and long term visual impacts as described in Alternative 1 could be greater under this alternative, as slightly more acreage in jurisdictional and upland areas would likely be developed. Visual changes in the Watershed and potential obstruction of views could be potentially significant in some localized areas.

Mitigation Measures

See example mitigation measures in Section 4.6.12.

Level of Significance After Mitigation

Potentially significant unavoidable indirect impacts in some localized areas.

5.2.5.13 Water Supply and Conservation

Significance thresholds under CEQA are provided in Section 4.6.13.

5.2.5.2.1 Alternative 1: No Project Alternative (Existing Case-by-Case Permitting)

As with the proposed SAMP/WSAA Process, some regulated activities that could be permitted under existing case-by-case permitting (No Project Alternative), such as land development for residential, commercial industrial, institutional and recreational facilities, may result in increased water consumption in the region, an indirect impact to water supply. IRWD, the major water supply agency serving the Watershed has projected future water demand based on build-out of local land use general plans and has demonstrated its ability to provide adequate supply through projected build-out in 2025 and beyond to 2030 (IRWD 2005). No new or expanded entitlements would be required.

As discussed in Section 4.6.13, existing state and local policies have been established to help address potential impacts to water supply. These include Senate Bill No. 221 and Senate Bill No. 610 which generally require new development to meet certain criteria and provide substantial evidence of available water supplies in the event of drought. Additionally, the County of Orange (2004) requires will-serve letters from water purveyors prior to approval or extension of approval of tentative tract maps. This provides assurance that the responsible water agencies are capable of coordinating delivery through construction of necessary facilities. Furthermore, the County of Orange General Plan Land Use Element provides for the phasing of development consistent with the adequacy of public services and facilities. In the case of water supply facilities, the absolute necessity of water service to development will ensure adequate incremental water capacity.

Thus, local and state requirements would help ensure the adequacy of the public water supply for a project has been addressed before the project is approved. Therefore, no significant adverse water supply impacts are anticipated.

Mitigation Measures

No mitigation measures are needed because no significant impacts to water supply were identified

Level of Significance after Mitigation

Less than significant.

5.2.5.2.2 Alternative 2: Complete Avoidance (No Permits Issued)

Under this alternative, no activities requiring dredge or fill in jurisdictional areas could be permitted including land development, bridges, and flood control facilities. Compared to the proposed SAMP/WSAA Process, this alternative would result in less land development overall, and therefore, less demand on existing water supplies. No adverse impacts would be expected. Local and state requirements would help ensure the adequacy of the public water supply for a project has been addressed before the project is approved. Therefore, no significant adverse impacts are expected.

Mitigation Measures

No mitigation measures are needed because no significant impacts to water supply were identified

Level of Significance After Mitigation

Less than significant.

5.2.5.2.3 Alternative 3: Avoidance Except for Bridges and Utility Lines

Under this alternative, only bridges and utilities would be permitted in jurisdictional areas. Planned development that would result in jurisdictional impacts could not be developed. Compared to the proposed SAMP/WSAA Process and Alternative 1, this alternative would result in less land development overall, and therefore, less demand on existing water supplies. No adverse impacts would be expected. Local and state requirements would help ensure the adequacy of the public water supply. Therefore, no significant adverse impacts are expected.

Mitigation Measures

No mitigation measures are needed because no significant impacts to water supply were identified.

Level of Significance After Mitigation

Less than significant.

5.2.5.2.4 Alternative 4: General Plan Build-out without Avoidance

Alternative 4 requires no avoidance of jurisdictional areas; therefore land development could occur in accordance with the existing city and County General Plans, zoning codes and with full development of the MPAH. Slightly more acreage in jurisdictional and upland areas could be developed under this alternative as compared to the proposed SAMP/WSAA Process and existing case-by-case permitting. Accordingly, more residential housing and other types of development would be constructed that would increase demand on local water supplies. IRWD has projected future water demand based on build-out of local land use general plans and has demonstrated its ability to provide adequate supply through projected build-out in 2025 and beyond to 2030 (IRWD 2005). No new or expanded entitlements would be required.

Additionally, local and state requirements as discussed in Section 4.6.13 would help ensure the adequacy of the public water supply for a project has been addressed before the project is approved. Therefore, no significant adverse impacts are expected.

Mitigation Measures

No mitigation measures are needed because no significant impacts to water supply were identified.

Level of Significance After Mitigation

Less than significant.

5.3 COMPARISON OF ALTERNATIVES

Table 5-1 provides a summary of projected environmental impacts of the four alternatives in comparison to the proposed SAMP/WSAA Process.

Table 5-1 Comparison of Alternatives to the Proposed SAMP/WSAA Process

Impact Area	Alternative No. 1 No Project/No Federal Action (Existing Case-by-Case Permitting)	Alternative No. 2 Complete Avoidance (No Permits Issued)	Alternative No. 3 Avoidance Except for Bridges & Utility Lines (Limited Permitting)	Alternative No. 4 General Plan Build-out Without Avoidance (Full Permitting)
Aquatic, Wetland & Riparian Habitats	Greater/PSC	Similar (fewer impacts, but no coordinated restoration) /LTS	Similar (fewer impacts, but no coordinated restoration) /LTS	Greater/PSC
Biological Resources, including Threatened & Endangered Species	Greater/LTS	Similar (fewer impacts but no coordinated restoration) /LTS	Similar (fewer impacts but no coordinated restoration) /LTS	Greater/PSC
Hydrology, Erosion and Sedimentation	Greater/LTS	Greater (flood hazards)/PS (flood hazards).	Greater (flood hazards)/PS (flood hazards).	Greater/LTS
Water Quality	Greater/LTS	Similar/(fewer impacts, but no coordinated mitigation program/LTS	Similar/(fewer impacts, but no coordinated mitigation program/LTS	Greater/PSC
Agricultural Resources	Similar/LTS	Similar/LTS	Similar/LTS	Greater/LTS (indirect)
Air Quality	Similar/LTS	Similar/LTS	Similar/LTS	Greater/PS (indirect)
Cultural Resources	Similar/LTS	Similar/LTS	Similar/LTS	Greater/LTS
Floodplain Values	See Hydrology, Erosion and Sedimentation	See Hydrology, Erosion and Sedimentation	See Hydrology, Erosion and Sedimentation	See Hydrology, Erosion and Sedimentation
Geology/Soils	Similar/LTS	Less/LTS	Less/LTS	Greater/LTS
Land Use	Similar/LTS	Greater/PS	Greater/PS	Similar/LTS
Noise	Similar/LTS	Less/LTS	Less/LTS	Greater/LTS
Public Health and Safety	Similar/LTS	Less/LTS	Less/LTS	Greater/LTS
Recreation	Similar/LTS	Less/LTS	Less/LTS	Greater/LTS
Socioeconomics	Similar/LTS	Greater/LTS	Greater/LTS	Similar/LTS
Transportation	Similar/LTS	Greater/PS (full MPAH could not be built)	Similar/LTS	Similar/LTS
Visual Resources	Greater/LTS	Similar/LTS	Similar/LTS	Greater/PS (indirect; in localized areas)
Water Supply and Conservation	Similar/LTS	Less/LTS	Less/LTS	Greater/LTS
Legend Less = Impact of alternative is projected to be less than impact of proposed SAMP/WSAA Process Similar = Impact of alternative is projected to be equivalent to impact of the proposed SAMP/WSAA Process Greater = Impact of alternative is projected to be greater than impact of the proposed SAMP/WSAA Process LTS = Less than significant impact PS = Potentially significant impact unless mitigation incorporated PSC = Potentially significant cumulative impact				

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE AND LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE

NEPA Section 1505.2(b) requires that an EIS specify the alternative or alternatives which were considered to be environmentally preferable from the range of alternatives considered. The environmentally preferable alternative is the alternative that will best promote national environmental policy as expressed in NEPA. Generally, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources (CEQ, 1981). CEQA requires the identification of an environmentally superior alternative. Specifically, CEQA Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, then the EIR shall also identify an environmentally superior alternative among the other alternatives.

Alternative 2, Complete Avoidance, would appear to be the environmentally preferred alternative/environmentally superior alternative, since under Alternative 2 no permits could be issued for impacts to waters of the U.S. and streambeds anywhere in the Watershed regardless of resource integrity. Therefore, future impacts to aquatic, wetland, and riparian habitats; threatened and endangered species; hydrology; and water quality would not occur, and the Watershed would remain in its present condition. Additionally, no future indirect impacts would occur from long-term implementation of regulated activities in the Watershed, such as traffic, noise, and air emission increases, changes in visual character and scenic views, impacts to public health and safety, and impacts to recreational, agricultural, and cultural resources. However, under this alternative, there would be no strategic mitigation/restoration to enhance aquatic habitats in the Watershed. The Watershed would remain in its present condition which would likely entail continued degradation of certain low quality jurisdictional areas from uncontrolled urban and storm runoff, incised channels, uncontrolled erosion and sedimentation, and spread of invasive exotic plants (e.g. *Arundo*). Additionally, potential flood hazards in the Watershed would increase since no maintenance of flood control channels (e.g. vegetation clearing) would be permitted. This could be a significant impact as stated in Section 5.2.3.2.

In contrast, while the proposed permitting procedures of the SAMP/WSAA Process would authorize impacts to low quality areas and require the avoidance and minimization of impacts in aquatic resource integrity areas, it also includes a Strategic Mitigation Plan and Mitigation Coordination Program to enhance the integrity of the Watershed and help ensure long-term management of aquatic resources. Also, the proposed SAMP/WSAA Process, unlike Alternative 2, would not prohibit flood control maintenance activities, and thus, would help minimize potential flood hazards. Therefore, on balance the SAMP/WSAA Process is determined to be the environmentally superior alternative/environmentally preferable alternative over the long-term in comparison to all alternatives.

For more information, including a discussion of practicability of alternatives, see Appendix E, which identifies the Least Environmentally Damaging Practicable Alternative (LEDPA) per the requirements of CWA Section 404(b)(1) Guidelines.